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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,422	03/12/2001	Jim Sundqvist	45687-00050 P5263US00/A	1824
27045	7590	08/16/2004	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024			ZHONG, CHAD	
			ART UNIT	PAPER NUMBER
			2152	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/804,422	Applicant(s) SUNDQVIST, JIM	
	Examiner Chad Zhong	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) * | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-33 are presented for examination.
2. It is noted that although the present application does contain line numbers in specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-2, 3, 4-5, 6, 8-9, 11, 12-13, 15-16, 17, 19-24, 25-28, 30, 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by NLANR: Engineering Services (hereinafter NLANR), 1999. Note, that this is a packet of documents, for easy reference, the examiner will refer to particular "article – section – lines" in that order as stated in the following office action.

5. As per claim 1, NLANR teaches a method for controlling individual data flows comprising data packets to a terminal in a communications system, said data flows being carried over at least one communications connection with a predetermined bandwidth and with use of at least one protocol which has parameters, said method including the steps of:

providing a memory in the terminal;

a user entering information into the terminal, regarding the user's estimation of a degree of importance of at least one or more of the individual data flows to different applications on the terminal (General Comments on Tuning – Setting TCP Buffer Space – pg 1, lines 5-15; A User's Guide to TCP Windows – Testing Bandwidth – pg 1-2, lines 5-15);

storing information about the user's preferences, based on said information entered by the user, in the memory of the terminal (A User's Guide to TCP Windows – Testing Bandwidth – pg 1-2, lines 5-15; A User's Guide to TCP Windows – Setting the TCP Window Size – pg 1, lines 5-6); and

controlling, through manipulation of at least one protocol parameter, a bandwidth proportion of an available bandwidth used by the individual data flows based on said stored information about the user's preferences (A User's Guide to TCP Windows – Testing Bandwidth – lines 5-15; Other Bottlenecks and Resource Limits – Confirm that there are no losses – pg 1, lines 10-12; Other Bottlenecks and Resource Limits – Checking for receiver limits – pg 2, lines 1-5).

6. As per claim 2, NLANR teaches a method according to claim 1, wherein the controlling step involves restricting a bandwidth proportion used by at least one first flow to at least one first application in order to give a larger bandwidth proportion to at least one second flow serving at least one second application (Other Bottlenecks and Resource Limits – Confirm that there are no losses – pg 1, lines 10-12; Other Bottlenecks and Resource Limits – Checking for receiver limits – pg 2, lines 1-5; Other Bottlenecks and Resource Limits – Checking for receiver application limits – pg 2, lines 1-5; Other Bottlenecks and Resource Limits – Checking for other path limits – pg 2, lines 4-9).

7. As per claim 3, NLANR teaches a method according to claim 1, wherein the storing step includes assigning a port number to each of the individual data flows, and storing said information about the user's preferences for the respective individual data flows in a database in the terminal (A User's Guide to TCP Windows – Setting the TCP Window Size – pg 1, lines 5-6).

8. As per claim 4, NLANR teaches a method according to claim 1, wherein the step of controlling the bandwidth proportion used by individual data flows to the applications on the terminal includes:

investigating if a data packet to be sent from the terminal is an acknowledgment packet;

if the data packet is an acknowledgment packet, retrieving the stored information on the user's preferences associated with the data flow to the terminal with which the acknowledgment packet is associated;

determining by comparing a window size of the acknowledgment packet with retrieved information on the user's preferences to decide if the window size should be reduced, said window size defining a maximum amount of unacknowledged data packets that a receiver of the acknowledgment packet should be allowed to send to the terminal on the data flow with which the acknowledgment packet is associated; and

reducing the window size, based on said determining, by overwriting the window size with a lower value before sending said acknowledgment packet to the receiver (A User's Guide to TCP Windows – Testing Bandwidth – lines 5-15; Other Bottlenecks and Resource Limits – Checking for sender limits – pg 3, lines 4-10; General Comments on Tuning – Setting TCP Buffer Space – pg 1, lines 5-15).

9. As per claim 5, NLANR teaches a method according to claim 4, wherein the window size is overwritten when the acknowledgment packet is in a transport layer (General Comments on Tuning – Setting TCP Buffer Space – pg 1, lines 5-15).

10. As per claim 6, NLANR teaches a method according to claim 4, wherein the window size is overwritten when the acknowledgment packet is in an Internet layer. (Enabling High Performance Data Transfers on Hosts – pg 2, lines 1-10; pg 6, lines 20-26).

11. As per claim 8, Claim 8 is rejected for the same reasons as rejection to claim 1 above.
12. As per claim 9, Claim 9 is rejected for the same reasons as rejection to claim 2 above.
11. As per claim 11, Claim 11 is rejected for the same reasons as rejection to claim 4 above.
12. As per claims 12-17, Claims 12-17 are rejected for the same reasons as rejection to claims 1-6 above respectively.
13. As per claims 19-22, Claims 19-22 are rejected for the same reasons as rejection to claims 1-4 above respectively.
14. As per claims 23-28, Claims 23-28 are rejected for the same reasons as rejection to claims 1-6 above respectively.
15. As per claims 30-33, Claims 30-33 are rejected for the same reasons as rejection to claims 1-4 above respectively.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 7, 18, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over NLANR: Engineering Services (hereinafter NLANR), 1999, in view of 'Official Notice'.
18. As per claims 7, 18 and 29, NLANR does not explicitly teaches a method according to claim 4,

wherein the step of reducing the window size comprises overwriting the window size when the acknowledgment packet is in a physical layer. "Official Notice" is taken that the concept and advantages of providing for reducing the window size by overwriting the window size when the acknowledgement packet is in a physical layer is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include reducing the window size by overwriting the window size when the acknowledgement packet is in a physical layer with NLANR because it would provide for flow control at various different OSI layers other than TCP and IP. Further, as applicant pointed out in the specification, changing the window size is a TCP functionality and the optimum method of changing the window size should be done at the TCP layer, extending this functionality to other layers would require re-calculation of checksum values thus leading to unnecessary overhead. Thus extending TCP layer functionality to various other layers is obvious and expected in the art as is taught by NLANR (see item 15 of this office action for additional details).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Method And Arrangement For Control Of Non Real-Time Application Flows In A Network Communications System".

- i. "BTU: A communication Benchmark Proposal" – Maly et al. June 1995
- ii. US 5193151 Jain
- iii. "Decoupling Control From Data for TCP Congestion Control" Shie-Yuan Wang September 1999.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (703) 305-0718. The examiner can normally be reached on M-F 7am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on 703-305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CZ
May 27, 2004



JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100